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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/603,941	06/27/2000	Zhenan Bao	BAO 16-25-12	4437
28221	7590	02/24/2004	EXAMINER	
GLEN E. BOOKS, ESQ. LOWENSTEIN SANDLER PC 65 LIVINGSTON AVENUE ROSELAND, NJ 07068			ECKERT II, GEORGE C	
			ART UNIT	PAPER NUMBER
			2815	

DATE MAILED: 02/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/603,941

Applicant(s)

BAO ET AL.

Examiner

George C. Eckert II

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 13-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 April 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's response dated December 1, 2003 has been entered of record.

Election/Restrictions

2. Claims 13-18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Election was made **without** traverse in Paper No. 6.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 6-12 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Hacker (of record). With regard to claims 1, 3, 10, 12 and 19, Hacker teaches, with reference to paragraphs 0001, 0007 and 0083, the formation of transistors comprising a silsesquioxane dielectric layer above a substrate [para. 0007] wherein the silsesquioxane precursor is cured at a temperature of less than about 200° C and less than about 150° C (Hacker teaches in 0083 that the precursor may be cured at 100° C). With regard to claims 2 and 10, Hacker teaches in paragraph 0076 that the silsesquioxane precursor may comprise an alkyl(methyl) group. With regard to claim 4,

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because Hacker teaches the same structure and curing temperature as instantly claimed, it is considered inherent that the high-dielectric strength film will have a will have a dielectric constant greater than 2. With regard to claims 6-9 and 11, these claims are directed to the process by which the product is formed. Note that a “product by process” claim is directed to the product per se, no matter how actually made, In re Hirao, 190 USPQ 15 at 17 (footnote 3). See also In re Brown, 173 USPQ 685; In re Luck, 177 USPQ 523; In re Fessmann, 180 USPQ 324; In re Avery, 186 USPQ 161; In re Marosi et al., 218 USPQ 289; and particularly In re Thorpe, 227 USPQ 964, all of which make it clear that it is the patentability of the final product per se which must be determined in a “product by process” claim, and not the patentability of the process, and that an old or obvious product produced by a new method is not patentable as a product, whether claimed in “product by process” claims or not. Note that applicant has the burden of proof in such cases, as the above case law makes clear. Instantly, these claims do not structurally differentiate over that taught by Hacker and as such are anticipated.

Regarding the limitations that a FET is formed on the substrate, Hacker teaches the formation of silsesquioxane to improve the characteristics of integrated circuits which include transistors.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hacker in view of Fergason et al. Hacker taught the formation of silsesquioxane on a substrate but did not teach that the substrate was an indium-tin-oxide (ITO) coated plastic substrate. Fergason et al teach the use of an ITO coated plastic substrate (col. 9, lines 3-9). Hacker and Fergason et al. are combinable because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skill in the art to use a plastic substrate coated with ITO. The motivation for doing so is that a plastic substrate is more flexible than a conventional glass substrate and less prone to cracking. Therefore, it would have been obvious to combine Hacker with Fergason et al. to obtain the invention of claim 5.

Response to Arguments

4. Applicant's arguments filed December 1, 2003 have been fully considered but they are not persuasive. Applicant first argues that Hacker fails to teach or suggest a FET device or any other semiconductor or transistor device (response, p. 2). However, this argument is against the clear teaching in Hacker, paragraph 0001, which teaches that Hacker's invention is directed toward integrated circuits having thousands or even millions of transistors. Hacker there also teaches the use of thin films of silicon dioxide as dielectric layers. In all, the argument is not persuasive.

Applicant next argues that Hacker's device comprises an alkylated siloxane film rather than a silsesquioxane film (response, pp. 2-3). This argument fails for at least two reasons. First, none of the instant claims cite a limitation as to the composition of the layer after curing. The claims merely cite a liquid deposited silsesquioxane precursor deposited and cured at a specific

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temperature. The argument attempts to define the claim by importing limitations from the specification and is not persuasive. Second, Hacker *does* teach that a silsesquioxane film is formed after curing the precursor. In paragraphs 0081-83, Hacker teaches that the substrate and silsesquioxane precursor is cured “to convert the silsesquioxane molecule composition into a silsesquioxane thin film.” In paragraph 0083, Hacker teaches that this cure is done at a low temperature as instantly claimed. As such, Hacker teaches the instant claim limitations and arguments to the contrary are not persuasive.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George C. Eckert II whose telephone number is (571) 272-1728.

The examiner can normally be reached on 8:00 - 5:30, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (571) 272-1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


GEORGE ECKERT
PRIMARY EXAMINER